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The Experiences of ICU Nurses Caring for COVID-19 Patients in Zambia

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
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Walden University
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Abstract

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MSN, Walden University, 2020

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Nursing Education

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Abstract

The purpose of this research was to explore the experiences of ICU nurses caring for COVID-19 patients in Zambia. The problem was lack of knowledge on what intensive care unit nurses experienced while caring for COVID patients then to investigate the experiences of ICU nurses taking care of COVID patients in Lusaka, Zambia. Using Sister Callista Roy's nursing adaptation model as a conceptual framework, the qualitative interpretative phenomenology approach was used to interview 14 participants in two hospitals in Zambia. MAXQDA software was used to organize data to develop codes and derive six themes, which were education, emotional and psychological effects, nursing shortage, management support, risk of infection, and professional protection equipment shortage. Some participants said that the in-person interview was the first opportunity they had ever had to discuss their pandemic experiences, which was very beneficial because, in Lusaka, Zambia, ICU nurses were not provided with psychological counseling to support their emotional and psychological wellbeing. The findings of this study supported Walden's mission of creating positive social change, as it brought awareness to the issues providers were facing.

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Dedication

I dedicate this study to the almighty God for the wisdom, knowledge and understanding He gave me during the entire time I was working on my research. God has been my strong pillar and my source of strength throughout the program. I also dedicate this work to my family; Lazarous and Chileshe Mutambo, James Mwila, Ndanji Mutambo, and Christian Alinani Mutambo for all the support and prayers. Thank you so much. I am also extending my heartfelt thanks to Dr. Reuben Kamoto Mbewe, my brother Patrick Chileshe, and my friend Royda Nakazwe for the encouragement and support.

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Besides my chair, I would like to thank the research committee member Dr. Sophia Brown for the insightful comments and constructive feedback. Your feedback made me become a better scholar. Dr. Sipes and Dr. Brown, it is a privilege and an honor to do research under your guidance.

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Chapter 1: Introduction to the Study

COVID-19 is a global concern that impacts healthcare personnel like intensive care unit (ICU) nurses who care for COVID patients. Three years ago, when the discovery of a novel coronavirus that was the cause of an outbreak of respiratory infections was revealed in China, a public health emergency of international concern was declared by the World Health Organization. Despite several initiatives over the past 3 years to learn from the pandemic and debates on international agreements for pandemic preparedness, the global response has remained inadequate and fragmented (The Lancet, 2023). This serves as justification for further research on the experiences of ICU nurses who provide COVID patient care in Lusaka, Zambia.

As frontline healthcare providers in the fight against COVID-19, ICU nurses have a big obligation to provide the specific patient care that is required in ICUs (Fernández-Castillo et al., 2021). According to Nikbakht-Nasrabadi et al. (2022), ICU nurses offer intensive care and comprehensive services to patients with life-threatening diseases, they are responsible for a wide range of tasks, including making decisions under pressure and paying close attention to patient's needs and are directly exposed to the virus while caring for patients who are affected by COVID. A study conducted by Chegini et al. (2021) showed that ICUs experienced inadequate financial and nonfinancial support, a shortage of protective gear, and inefficient communication, and suitable work schedules were not given. ICU nurses face risk factors that can put them in a state of mental and physical stress that has a profound impact on their well-being and mental health including witnessing death and exposure to illness, stigma, job stress (such as lack of resources,

redeployment, poor organizational support), isolation from loved ones due to concerns about disease transmission, a lack of ICU beds, numerous end-of-life decisions, a lack of adequate personal protective equipment (PPE), and loneliness (Nikbakht-Nasrabadi et al., 2022).

The following are the major sections of the chapter: detailed description of the background of the study, problem statement, purpose of the study, research questions, conceptual framework, nature of the study, definitions of the phenomenon, assumptions, scope of delimitations, and significance of the study.

Background of the Study

ICU nursing is a profession that accumulates a lot of stress, which may have a negative impact on their physical, emotional, and social well-being while caring for COVID patients. Gordon et al. (2021); explored the experiences of ICU nurses who were in forefront caring for COVID-19 patients in the United States. ICU nurses acknowledged that they experienced psychological and physical challenges. Employing qualitative descriptive design using semi-structured interviews with 11 ICU nurses, Gordon et al. found five main topics and subthemes: anxiety/stress, fear, helplessness, worry, and empathy were among the emotions experienced. Inability to provide human soothing connection, patients dying, lack of PPE, isolation, care delay, changing practice guidelines, and language barrier were all listed as obstacles in the care setting. Finally, Gordon et al. found that stigma, differing perceptions of healthcare heroes, more duties, strained interactions with others, and isolation/loneliness were all classified as social impacts. Coworker support, family support, distractions, mind/body wellbeing, and

spirituality/faith were all listed as short-term coping techniques. The author's results show that ICU nurses suffered from severe psychological and physical repercussions as a result of caring for COVID patients in a stressful setting. Outside of work, ICU nurses had to deal with societal changes brought on by the pandemic, as well as differing public attitudes toward them (Gordon et al., 2021).

Description of the Gap

The gap is lack of knowledge on what ICU nurses experienced while caring for COVID patients. Thus, the purpose of the study is to learn more about the experiences of ICU nurses in Lusaka, Zambia, who are caring for COVID patients.

Mwape et al. (2022) conducted a study with the purpose to evaluate the levels of stress, anxiety, and depression that nurses and midwives dealt with during the COVID-19 pandemic in two areas of Zambia. The authors findings demonstrated a strong correlation between working in COVID isolation departments and feelings of stress and anxiety (Mwape et al., 2022. However, the population in Mwape et al.'s study came from casualty, outpatient department, medical and surgical wards, ICUs, and COVID-19 isolation and treatment centers. The author's results only reflect the following categories: casualty, outpatient department, medical surgical wards, admissions, and COVID-19 isolation, maternal child health, and public health. Nothing was reported on ICU nurses' category, thus the rationale to investigate more into the experience of ICU nurses who care for COVID patients in Lusaka, Zambia. The following are other studies to support that the gap exists.

Mayimbo et al. (2023) investigated the accessibility and availability of personal protection equipment among nurses and midwives in a few urban general hospitals in Lusaka, Zambia. The study discovered that the majority of nurses and midwives lacked access to sufficient PPEs, but they claimed to have enough surgical masks, gloves, and long-sleeved gowns, with eye goggles being the least common. About 75% of survey participants reported having insufficient PPEs overall. The issue of insufficient PPEs is not unique to Zambia, but it also has negative consequences on the standard of healthcare delivered during pandemics like COVID-19 because it may make healthcare providers less willing to provide high-quality care. (Mayimbo et al., 2023)

Mukamba et al. (2022) conducted a study on HIV care experiences and health priorities during the first wave of COVID-19: clients' perspectives, this was a qualitative study in Lusaka, Zambia. Their research contributes to a better understanding of the socioeconomic effects of COVID-19 on HIV patients, which result in household-level unemployment, food insecurity, and income insecurity. These findings also add to the body of evidence showing that COVID-19 measures like partial lockdowns, travel bans, closures of businesses and schools, and bans on large gatherings had a negative impact on the economies of sub-Saharan Africa. The fear of contracting COVID-19 while HIV positive can arise from the COVID-19 and other infectious pandemics. National governments should develop social protection systems that cater to the needs of vulnerable people like HIV patients during pandemics like COVID-19.

By raising awareness of ICU nurses' experiences caring for COVID patients, my research may contribute to positive social change with a better understanding of the needs

thus enabling healthcare organizations to put resources in place to support ICU nurses and safeguard them against COVID infection. This would contribute to positive clinical practice changes.

Why the Study is Needed

The results of my study may contribute to making a difference in the following ways: ICU nurses may discuss how the COVID-19 pandemic has exacerbated staffing shortages, increased patient acuity levels, and restricted access to time off from work, increasing the risk of burnout for ICU nurses caring for COVID-19 patients (Christianson et al., 2022). Collaboration at the community, local, regional, and national levels can help find solutions to implement long-term evidence-based interventions and programs to improve ICU nurses' mental health and well-being. The findings may also help healthcare institutions to be able to prepare ICU nurses for pandemics by offering training if this was an issue identified during the interviews. The results of my study may contribute to positive social change where ICU nurses identify stressors and be able to get support.

My study will be used to discover useful tools that enhance the wellbeing of ICU nurses and to further describe the ICU nurses' experiences during the COVID-19 pandemic in Zambia.

Problem Statement

The specific research problem that will be addressed through this study is the lived experiences of ICU nurses who take care of patients with COVID 19 in the hospital environment in Zambia. The situation or issue that prompted me to search the literature is

COVID-19 is a global concern; it impacts healthcare personnel like ICU nurses who are fighting on the front lines to save the lives of those who are afflicted, especially ICU nurses. This study is relevant because exploring the experiences ICU nurses in Zambia can help improve patient safety, the quality of care, and can help ICU nurses prepare for upcoming pandemics. Therefore, it is essential to understand the experience of nurses caring for patients with COVID-19.

From the onset of the pandemic, ICU nurses continued to face personal worry and anxiety as a result of the pandemic's unpredictability and increased interaction with COVID patients. ICU nurses experienced extreme exhaustion, physical discomfort from long working hours with face masks and other PPE, fear of contagion, symptoms of depression, anxiety, insomnia, psychological distress, and post-traumatic stress and emotional distress (Nikbakht-Nasrabadi et al., 2022). In a study by Hu et al. (2021), ICU nurses were concerned about becoming infected and infecting family members. Initial conflicting feelings, rapid adaptation to the 'new working environment' in the first 1–2 weeks in the ICU, desperation after adaptation, and holding on and surviving were the themes identified during the study. ICU nurses suffered from severe psychological and physical repercussions as a result of caring for COVID patients in a stressful setting. Outside of work, ICU nurses had to deal with societal changes brought on by the pandemic, as well as differing public attitudes toward them (Gordon et al, 2021).

According to *The Lancet* (2023), COVID is far from being over; therefore, everyone needs to stay vigilant and cannot let their guard down, hope that the worst is past, or believe that the issue is in another place. The omicron subvariant XBB.1.5 is

more worrisome and should be closely monitored. The omicron subvariant XBB.1.5 has rapidly expanded in the United States, and XBB.1.5 made up 20.1% of COVID cases by the end of December 2022. In the United States, where XBB.1.5 is most common, there are some signs that hospital admissions are rising. The pandemic is still ongoing, and President Biden had declared for the United Sates in September of 2022, that there will be a new, deadly phase of COVID that needs immediate attention (*The Lancet*, 2023).

Guttormson et al. (2022) carried out a study to investigate critical care nurses' experiences during the COVID-19 pandemic. Results showed that ICU nurses experienced high levels of distress and burnout during the COVID-19 epidemic, these nurses' mental health and ability to remain in the ICU profession will undoubtedly be significantly impacted. The feeling of isolation among nurses was exacerbated by a lack of persistent community support to stop the spread of COVID-19 or acknowledgement that COVID-19 was a real disease. Exhaustion, worry, insomnia, and moral distress were among the physical and psychological symptoms that nurses described. There was a lot of worry about catching COVID-19 or infecting loved ones. The COVID-19 pandemic placed an unprecedented and enormous pressure on ICU nurses in the United States. Understanding these experiences of nurses who care for COVID patients offers insights into issues that must be resolved in order to develop and maintain a workforce of ICU nurses. Research is required to characterize nurses' experiences during the COVID-19 epidemic in greater detail and to pinpoint the best resources for promoting the wellbeing of ICU nurses (Guttormson et al., 2022).

Purpose of the Study

The purpose of this qualitative research study is to explore the lived experiences of ICU nurses who take care of patients with COVID-19 in the hospital environment in Zambia. The concepts of interest are ICU nurses' lived experiences, potential psychological and physical repercussions of caring for patients diagnosed with COVID-19.

Research Questions

RQ: What are the lived experiences of ICU nurses who care for COVID-19 patients in the hospital in Zambia?

Possible secondary probing questions include

1. Tell me how you feel about caring for a patient with COVID-19.
2. What form of support has management and team members given you?

Theoretical Framework (Roy Adaptation Model)

The concepts that ground this study include Sister Callista Roy's nursing adaptation model created in 1976. Roy was persuaded of the value of defining nursing as a service to society (Browning-Callis, 2020). The Roy adaptation model identifies four types of adaptation: physiologic, self-concept, role function, and interdependent modes. In these adaptation strategies, ICU nurses assist people by addressing their requirements (Ursavaş et al., 2014). *Physiologic* demands are those of a bio-psycho-social being who interacts constantly with a changing environment. The person's decisions and actions are surrounded by and influenced by their internal and external surroundings. *Self-concept* is where a person's self is composed of various components. An individual can have beliefs

about themselves. *Reliant* on one another to survive; this happens when a group genuinely respects, cares for, and acts in accordance with its shared ideals. *The role function mode,* which considers a person's place in society for social integrity, also categorizes roles such as doctor and nurse (Ursavaş et al., 2014).

According to Ursavas et al. (2014), the Roy adaptation model helps ICU nurses to concentrate on the role of nursing and its applications rather than medical practice. Additionally, it supports effective, efficient, controlled, and methodical patient care. The Roy adaptation model is one of the models that is frequently applied in nursing. The purpose of nursing is to promote compliance and life expectancy, according to the Roy adaptation model. In order to provide comprehensive therapy, the Roy adaptation model assesses the patient in four different modes: physiologic, self-concept, role function, and dependency. The nursing process was used to assess patient data using the Roy adaptation model's four modes (physiologic, self-concept, role function, and interdependence modes). The adaptation theory supports my study because it will simplify the issue and give the ICU nurses a way to concentrate on their line of work while developing a biopsychosocial approach to the patients they are caring for. Because of this, it is crucial to promote the use of theories in nursing care and strengthen their integration into daily practice.

The logical connections between the framework presented and the nature of my study include the impact of COVID on healthcare personnel, especially ICU nurses who care for COVID patients (Al Thobaity & Ashammari, 2020). Therefore, it is vital to

explore the lived experiences of ICU nurses who take care of patients diagnosed with COVID-19.

The concepts of interest are ICU nurses' lived experiences, potential psychological and physical repercussions of caring for patients diagnosed with COVID-19. Sister Callista Roy's adaptation model of nursing is the nursing theory that seeks to define or explain the practice of nursing where the individual nurse is viewed under Roy's model as a collection of interconnected systems that maintain a balance between numerous inputs (Browning-Callis, 2020).

Looking at the nature of my study, qualitative research using the interpretative phenomenological approach (IPA) is the appropriate method because it allowed me to gain in-depth knowledge about the lived experiences from the perspective of ICU nurses caring for COVID patients in the hospital environment. Qualitative research, IPA allows participants to speak extensively about the research topic and helps to capture the diversity of viewpoints and experiences of individuals with various origins, opinions, and circumstances (Hall & Harvey, 2018). The research question was semi-structured, open-ended, and included an interview guide with one main question and possible follow-up questions that were recorded. The data analysis included thematic coding to derive codes and themes.

Nature of the Study

My research is qualitative; the specific research design is interpretative phenomenology. Phenomenology is a design of inquiry that aims to capture the essence of a thing by looking at it from the viewpoint of individuals who have really experienced

it. In terms of what was experienced and how it was experienced, phenomenology is used to explain the significance of this experience (Neubauer et al., 2019).

The goal of interpretative phenomenology is to comprehend the fundamental meanings as they are generated through participant perception and interpretation of their lived experiences (Renjith et al., 2021). Phenomenological studies typically involve a small number of participants, and this method can be used to discover shared views that have not yet been addressed by current literature (Alhazmi & Kaufmann, 2022). Phenomenology design helps the researcher to grasp the interviewee's subjective perspective of a topic rather than generate generalizable understandings of huge groups of people (McGrath et al., 2019). In this study, I explored the experiences of ICU nurses who care for COVID patients in Zambia.

In this qualitative research, the inclusion criteria are ICU nurses working in the ICU who take care of COVID patients but may not be taking care of one at the time of my data collection, who are living in Lusaka, Zambia. I interviewed participants from two health institutions. I recruited nurses aged 20 to 65 years. The exclusion criteria are nurses not working in the ICU, living outside Lusaka, Zambia, and ICU nurses younger than 20 years and older than 65 years. The names of the ICU nurses were de-identified, and confidentiality was maintained. Informed consent was obtained; the procedure establishes a confidentiality agreement between the researcher and participant to maintain identity, personal information, and answers were not shared with anyone outside the study. I recruited via fliers that I posted on the board in the ICU unit's break room because this is where ICU nurses sit during their 15-minute and lunch breaks, making it

possible for them to notice the flyers and reply. I discussed with the participants that the interview would be 30 – 60 minutes; participants were permitted to drop out at any time.

I used face-to-face interviews, journaling, note-taking, audio recording, and used MAXQDA to organize my data. I used face-to-face interviews because observations can make use of social cues which other interview approaches cannot. Face to face can provide the interviewer with a wealth of additional information that can be added to the interviewee's spoken response to the questions (Saarijärvi & Bratt, 2021). During the face-to-face interview, participants use active listening techniques and are encouraged to ask questions as needed. Skills include developing the interview guide with one main question and potential probing questions to add depth to the stories and helped validate what the participants said, establishing trust and rapport; conducting the interview; reflecting; analyzing the data; demonstrating the trustworthiness of the research (Walden University, 2017). For my research, I used purposive sampling, where the researcher chooses persons who have traits that the researcher needs (Palinkas et al, 2015). I employed constant comparative methods reviewing codes and deriving themes, which are of the most common approaches to qualitative data analysis; Five to seven participants made up the sample. Saturation was reached after interviewing the fifth participant from the first institution and the sixth participant from the second institution.

Definitions

COVID-19: COVID is a respiratory illness brought on by the coronavirus SARS-CoV-2, which was identified in 2019. The virus primarily transmits from person to

person through respiratory droplets and tiny particles released during coughing, sneezing, or talking by an infected person. (Cascella et al., 2023).

ICU nurses: Intensive care nursing combines the essence of nursing with observation, insightful and even intuitive interpretation, and responds to the tiniest imbalance or deviation in a patient's state. Nursing concentrates intensely on all elements of fundamental nursing care and life support (Yoo et al., 2020).

Lived experiences: A person's experiences and choices, as well as the information they learned from them, are depicted as lived experience. It is also used to describe a category of qualitative research that covers linguistic and communication studies in addition to those on culture and society (Neubauer et al., 2019).

Assumptions

Qualitative research issues and offers more in-depth understanding. Qualitative research can be used for further investigation and understanding of quantitative data, compared to gathering numerical data points or intervening or introducing treatments as in quantitative research. In qualitative research, participants' experiences, viewpoints, and actions are gathered (Tenny et al., 2022). The ICU nurses who care for COVID-19 patients in the hospital in Zambia were free to share their lived experiences.

Scope and Delimitations

Delimitation is a qualitative research phrase that refers to creating boundaries to effectively scope the research as opposed to characterizing the limited scope as a limitation. Readers can better comprehend the circumstances and determine whether the case's findings apply to their own surroundings thanks to the description's breadth and

richness (Alpi & Evans, 2019). Delimiting factors for my study included the research design (qualitative research, including analysis of interviews), the timeframe (data collection ran for 2-3 weeks), and the population size (12 interviewees.)

The goal of the study is to explore the experiences of ICU nurses in Zambia caring for COVID patients. As frontline healthcare providers in the fight against COVID-19, ICU nurses have a big obligation to provide the specific patient care that is required in ICUs (Fernández-Castillo et al., 2021). According to Nikbakht-Nasrabadi et al. (2022), ICU nurses offer intensive care and comprehensive services to patients with life-threatening diseases, they are responsible for a wide range of tasks, including making decisions under pressure and paying close attention to patient's needs and are directly exposed to the virus while caring for patients who are affected by COVID.

Limitations

The limitations to my study may be time constraints. Researchers have a duty to the academic community to explain a study's limitations completely and honestly (Ross & Bibler-Zaidi, 2019). Challenges to my study may be, costs, technology and clearance documentation from Walden University as well as approval from the National health research authority Zambia (NHRA). I made sure that all the limitations, challenges, and barriers highlighted were dealt with before I started data collection and remained aware of my own potential bias.

With regards to costs and technology, I saved money for transportation, used free modes of recording equipment and a backup computer well as made sure I had reliable internet services during the process of data collection. I made sure that all the issues

highlighted were dealt with before I prepared to start data collection. I overcame the limitations, challenges, and barriers to my study by using an affordable, dependable, and safe method of data collection, audio recordings, writing the results of my research such as journaling, allocating time to plan, conduct, or document the results of research on a regular basis (every week) and staying close to my research study from the initial planning stage through submission (Valentino & Juanico, 2020).

The process of authorization to conduct research in Zambia has already started. For the process in Zambia was completed within a reasonable time frame, I need clearance from Walden University verifying that I have been cleared to do research. Once approval is given by the NHRA of Zambia, I started pre research preparations with the institutions via zoom meetings.

Significance of the Study to the Practice

This study is significant in that exploring the lived experiences of ICU nurses who care for COVID 19 patients is relevant because there is a lack of knowledge regarding the challenges the ICU nurses face in Zambia. I believe my research will be different from the research studies done in developed countries because no research has been conducted in Lusaka, Zambia on the experiences of ICU nurses caring for COVID patients.

This study may contribute to the understanding of the problem in the following ways: Through lived experiences, it may draw attention to the turbulent effects of COVID-19 on the physical and mental well-being of nurses in general and specifically ICU nurses in Lusaka, Zambia. It may suggest how ICU nurses have modified and practiced critical care nursing throughout the pandemic and how ICU nurses worked to

uphold patient safety as well as their own safety. Better understanding regarding these issues would potentially support positive social change for nursing in Zambia.

Significance to Theory

Sister Callista Roy's adaptation model of nursing is the nursing theory used to define or explain the practice of nursing, where the individual nurse is viewed under Roy's model as a collection of interconnected systems that maintain a balance between numerous inputs (Browning-Callis, 2020).

The Roy adaptation model is appropriate for my phenomenon of interest because it supports the concept of how ICU nurses adapt to new stressors including pandemics. The ability to adapt to difficulties and changes at various system levels helps to sustain high-quality healthcare. The presence of adaptations also suggests that front-line staff members are well-versed in the kind of adjustments required to guarantee high-quality care (Lyng et al., 2021).

Significance to Social Change

By raising awareness of ICU nurses' experiences caring for COVID patients, my research may contribute to positive social change with a better understanding of the needs thus enabling healthcare organizations to put resources in place to support ICU nurses and safeguard them against COVID infection. This would contribute to positive clinical practice changes.

Summary and Transition

ICU nurses encountered significant weariness, physical pain, and mental distress when caring for patients with coronavirus illness, making it imperative to examine their

experiences. Because of the unpredictable nature of the pandemic and their increased contact with COVID patients, ICU nurses have experienced personal fear and anxiety since the beginning of the pandemic. It is necessary to find solutions for ICU nurses to deal with newly emerging infectious diseases and to strengthen professional training to produce ICU nurses who can handle newly emerging infectious diseases. Chapter 2 will provide a more comprehensive examination of the literature.

Chapter 2: Literature Review

COVID-19 is a global concern; it impacts healthcare personnel like ICU nurses who are fighting on the front lines to save the lives of those who are afflicted (Sovold et.al, 2021). The purpose of this research is to explore the lived experiences of ICU nurses who care for patients diagnosed with COVID 19 in hospitals in Zambia. ICU nurses are essential in helping people, as a result, they adapt to a variety of new stressors, move toward optimal well-being, and enhance the quality of their lives (Browning-Callis, 2020).

Fighting COVID-19 requires the assistance of intensive care nurses. ICU nurses have taken the lead in delivering top-notch and secure patient care in health care institutions. Their task has become more difficult due to the COVID-19 epidemic; nevertheless, the ability of healthcare professionals to provide high-quality care has been impacted by their physical and emotional health. These considerations suggest that there is a lack of research study, particularly regarding the experiences of ICU nurses who care for COVID-19 patients in Zambia. However, more research is required to comprehend these experiences from the ICU nurses' perspective. Mobarki (2022) mentioned that lack of physical and mental wellbeing made it hard for ICU nurses to provide quality care to COVID patients. In order to fully comprehend the concerns of ICU nurses, it is necessary to explore further into their lived experiences.

Gordon et al. (2021) conducted a study, and the aim was to explore the experiences of ICU nurses caring for patients with coronavirus disease (COVID-19) in the United States. The author's results show that ICU nurses suffered from severe

psychological and physical repercussions as a result of caring for COVID patients in a stressful setting. Outside of work, ICU nurses had to deal with societal changes brought on by the pandemic, as well as differing public attitudes toward them. This research is important to my study because it talks about scarcity of literature. There was a lack of research done at the time; as a result, there were no proper instructions to guide ICU nurses on how to care for patients with COVID. The findings of this study may address the gap in knowledge.

This chapter will include the description of my literature search strategy, theoretical framework, literature review, and summary of the literature review.

Literature Search Strategy

I used the Walden University database for most of my resources. The keywords I used when searching the databases include *ICU Nurses COVID experiences, experiences of ICU nurses caring for COVID patients, COVID patients and ICU nurses experiences, ICU nurses and COVID*. The following are the databases that I used: CINAHL PLUS, CINAHL and Medline, Nursing and allied health journals, Google scholar, OVID nursing journals, Cochrane database, and PubMed. When I searched the databases, the following were the results I received using ICU nurses COVID experience seven articles, experiences of ICU nurses caring for COVID patients three articles, COVID patients and ICU nurses experiences 10 articles, ICU nurses and COVID 273 articles. Most of the articles used are within the last 5 years because COVID has been around for less than 5 years.

Theoretical Framework

The logical connections between the framework presented and the nature of my study include the impact of COVID on healthcare personnel, especially ICU nurses who care for COVID patients (Al Thobaity & Alshammari, 2020). Therefore, it is vital to explore the lived experiences of ICU nurses who take care of patients diagnosed with COVID-19. The concepts of interest are ICU nurses' lived experiences, potential psychological and physical repercussions of caring for patients diagnosed with COVID-19. Sister Callista Roy's adaptation model of nursing is the nursing that seeks to define or explain the practice of nursing where the individual nurse is viewed under Roy's model as a collection of interconnected systems that maintain a balance between numerous inputs (Browning-Callis, 2020). The following are some of the studies that used Roy's adaptation model of nursing and obtained positive results.

Candan et al. (2022) investigated the theory-based knowledge and nursing care with a person experiencing COVID-19 using the Roy adaptation model in the United States. By examining the nursing care given to a patient with a COVID-19 diagnosis, the goal was to demonstrate the value of using the Roy adaptation model to patient care. The authors claim that by using the particular knowledge base of the profession to provide care to individuals, nursing theories illuminate and direct nursing care. Roy's adaptation model is used by nurses to provide holistic care by considering people, procedures, and environments.

de Oliveira Muniz et al. (2022) researched on adaptive modes of adult men during COVID-19 using the Roy's adaptation model in Brazil. This study aims to understand how

adult men adapt to the COVID-19 pandemic. The COVID-19 pandemic triggered the following mechanisms of adaptation in men: mobilization of the physiological-physical and regulatory dimension: adjustments in the sleep pattern, dietary pattern, and maintenance of physical activity; group self-concept identity: managing emotions; role function: self-knowledge and self-care; interdependence: modifications in the marital relationship, family ties, and paternity; investment in training and studies.

Men were encouraged to move through practices of taking care of oneself and taking care of others as a result of their awareness of their own vulnerability, which encouraged them to enter into adaptation strategies in pursuit of balance throughout the pandemic. Psycho-emotional distress indicators signal the need for innovative care models that can facilitate healthy transitions in the face of the disruptions and uncertainty brought on by the COVID epidemic. These data can help define nursing care objectives specifically for men (de Oliveira Muniz et al., 2022).

According to a study conducted by Rizvi (2022), nursing burnout was on the rise as the COVID-19 pandemic enhances workplace environmental stressors. The study examined how Callista Roy's four modes of adaptation; role function, interdependence, physiological/physical, and self-concept or group identity can be used to reduce nursing burnout during the pandemic. The recommended remedy for nursing burnout looked at how Roy's adaptation model might be implemented through resiliency efforts, management and leadership changes, and state legislative regulation. These programs attempt to strengthen nursing support while lowering anxiety, moral anguish, and compassion fatigue.

The Callista Roy adaptation model offered nurses a way to successfully adjust to their constantly changing environment. Roy offers a strategy that enables people to make informed decisions and respond favorably to environmental cues. Resilience initiatives can be used to adapt in a therapeutic setting (Rizvi, 2022).

By utilizing the four modes of the Roy's adaptation; interdependence, role function, self-concept/group identity, and physiological needs, resilience initiatives can help nurses respond properly to stressful or potentially stressful events. Nurses can handle their particular pressures and develop coping mechanisms to deal with their difficulties with the help of seasoned nurses, counselors, and chaplains, in conjunction with leadership and management (Rizvi, 2022).

The Roy adaptation model incorporates key ideas from nursing theory such as environment, person, and health. The human has been considered holistically in this conceptual model. This model's fundamental idea is adaptation. There are three levels of adaptation: integrated, compromised, and compensating. Adaptation is viewed as both a process and a consequence. The cognator and the regulator are two coping mechanisms used by the human as an adaptive system to deal with the changing external environment. The subsystems' job is to keep integrated adaptation functioning. A person's level of adaptability is determined by the combined impact of the focused, contextual, and residual stimuli (Shariatpanahi et al, 2019).

Hosseini and Soltanian (2022) conducted a study to explore the application of Roy's adaptation model in clinical nursing in Iran. The researchers reported that application of a care program based on Roy's adaptation model led to an increase in

physically and psychologically healthy (adaptive) behaviors in patients with chronic illnesses, which may have a positive impact on the patients' psychological acclimatization to the disease, proper disease management, the elimination of complications, and the standard of nursing care.

The findings show that using a particular nursing model at work helped nurses to have a shared understanding of patients and their medical needs, resulting in more consistent and superior nursing care. Each of the four dimensions had significant effects on how nursing services were planned and delivered. It is advised to conduct further research on the thorough application of the model by health care professionals, especially nurses in clinical settings, in order to provide patients with more effective care and improve their quality of life. ICU nurses need theories and models that are most useful in their working situations (Hosseini & Soltanian, 2022).

ICU nurses are essential in helping people, whether they are ill or healthy, as a result, they adapt to a variety of new stressors, move toward optimal well-being, and enhance the quality of their lives (Browning-Callis, 2020). The Roy adaptation model is appropriate for my phenomenon of interest because it supports the concept of how ICU nurses adapt to new stressors including pandemics. The ability to adapt to difficulties and changes at various system levels helps to sustain high-quality healthcare. The presence of adaptations also suggests that front-line staff members are well-versed in the kind of adjustments required to guarantee high-quality care (Lyng et al., 2021).

ICU nurses tending to COVID-19 patients are under a great deal of emotional and physical strain. Using a grounded theory approach, this study investigated the process of

adaptation that ICU nurses go through when caring for COVID-19 patients. The study's objectives were to provide a solid theory and supply fundamental information for the creation of intervention programs that can aid ICU nurses in providing care for COVID-19 patients. The study's findings describe the ICU nurses' adjustments to caring for COVID-19 patients and their responses to the environment. Regularly educating ICU nurses on how to care for patients with these diseases as well as bolstering professional education to create ICU nurses who specialize in them are necessary to ensure that ICU nurses can methodically handle developing infectious diseases (Kim & Kim, 2021).

Browning (2020) stated that effective nursing care programs are required so that ICU nurses, a professional group whose job is crucial to the delivery of healthcare globally, are supported within their workplace infrastructures. An evaluation and development of a hospital-based program created to fulfill the needs of the healthcare team may be guided by the Roy adaptation theory. The ICU nurses had a variety of experiences caring for patients with COVID and they (ICU nurses) reported that they needed interventions like disease education, simulation training, emotional support, and follow-up care to manage patients with COVID-19 as well as safeguard their own health (Hu et al., 2021).

The following are the adaptation strategies ICU nurses used while caring for COVID patients: performing religious-spiritual activities, creating an empathetic atmosphere in the workplace, spiritualizing their work, trying to convince the family and gaining their support, and strengthening their sense of self-worth and accountability (Irandoost et al., 2022).

ICU Nurses

ICU nurses are at the forefront of fighting COVID 19 and are directly exposed to the virus and in danger of getting sick since they provide care for patients who are afflicted (Nikbakht-Nasrabadi et al., 2022). ICU nurses worked under very difficult conditions because Coronavirus disease 2019 (COVID-19) is an infectious illness with a high contagiousness level that is brought on by the SARS-CoV-2 coronavirus. More than 6 million people have died as a result of its terrible impact on the planet. It has turned out to be the most significant worldwide health problem since the 1918 influenza epidemic. Treatment recommendations are changed to reflect the most effective medicines when the virus mutates (Cascella et al., 2023).

The COVID-19 pandemic has pushed ICU nurses to their breaking point by increasing their workload, reducing the resources available to support it, putting their personal safety at risk due to their profession, and limiting the benefits they receive for carrying on with their duties. Due to their work during the pandemic, ICU nurses who cared for COVID patients suffered burnout symptoms such as depersonalization, a diminished sense of personal accomplishment, and tiredness. Increased patient morbidity and mortality, growing nurse turnover, and career attrition from the nursing profession are all consequences of burnout (Christianson et al., 2022).

Given the high levels of burnout and distress experienced by critical care nurses prior to the COVID-19 epidemic, these ICU nurses' mental health and ability to remain in the profession will undoubtedly be significantly impacted **(**Guttormson et al., 2022). Digby et al. (2022) conducted a study to explore ICU nurses' experiences and perceptions

of care and communication with patients during the COVID-19 pandemic. The authors wanted to understand how alternative ways of working have influenced work processes, relationships, and staff morale. This was a qualitative exploratory design study using audio-recorded and transcribed interviews with 20 ICU nurses. The author's findings are as follows: ICU nurses reported experiencing psychological stress when separating families and patients or working in isolation rooms for prolonged periods. This research is important to my study because it is stressful for ICU nurses to give care to patients with limited resources. This is also a concern because ICU nurses were not trained in how to handle the COVID pandemic which can lead to stress.

Heydarikhayat et al. (2022) conducted a study in order to better understand the lived experiences of nurses caring for patients with COVID-2019 in the context of the Iranian healthcare system. Triage-emergency, infectious-wards, and ICUs were all included in the study. During the COVID-19 outbreak, nurses reported stress, anxiety, fear, feeling depressed, distressed, and having trouble sleeping. Their caregiving was implemented in a stressful environment due to the workload, lack of equipment, prolonged use of personal protection equipment, and uncertainty regarding their safety. The ICU nurses also mentioned experiencing fatigue, exhaustion, and discomfort.

Stenlund and Strandberg (2022) conducted a study to report ICU nurses' experiences with COVID-19 care and its ethical challenges. The ICU nurses explained that the behavior of ICU COVID-19 patients was challenging. Therefore, it was challenging to predict what the next stage in the treatment plan should be. They practiced using non-invasive ventilation masks and respirators, as well as monitoring, intubation,

and intravenous infusions. The ICU nurses also mentioned that it was challenging to oxygenate patients and that special ventilator settings, such as volume-controlled pressure regulation, were required.

ICU nurses noted that administering ventilator treatment in the prone position was regarded as efficient yet resource intensive. The ICU nurses said that they were also serving as an extra set of hands for family members of a deceased patient. The ICU nurses stated that they worked hard to uphold the patient's dignity and privacy. The ICU nurses were under pressure to perform well while not skipping crucial tasks, but many felt unqualified for the job. ICU nurses said that having to rearrange priorities could make them feel inadequate and troubled their conscience. The ICU nurses said that they encountered morally troubling circumstances that made them feel guilty (Stenlund & Strandberg, 2022). Even if they were happy and satisfied when patients lived, ICU nurses felt that when patients leave the ICU, the receiving unit should be ready to offer more sophisticated aftercare.

As a result of providing care for patients with COVID-19, who had a variety of signs and symptoms, ICU nurses also suffered psychological side effects such as anxiety/stress, fear, and helplessness. The most severely ill COVID-19 patients' lives were in the hands of the ICU nurses, who carried a significant responsibility for their protection. (Stenlund & Strandberg, 2022).

COVID

COVID is caused by a severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus is very contagious. The first cases of COVID-19 were initially found

in Wuhan, Hubei Province, China, in late December 2019. SARS-CoV-2 spread so fast throughout the world and more than 6 million people died as a result of its terrible effects worldwide. On March 11, 2020, the World Health Organization (WHO) was forced to declare it a global pandemic (Cascella et al., 2023).

According to Singhal (2020), COVID, also known as the severe acute respiratory syndrome coronavirus 2, has emerged as a new public health disaster that is posing a threat to the entire world. In December 2019, the virus spread from bats to humans via unidentified intermediary species in Wuhan, Hubei Province, China. As of 05/03/2020, there have been approximately 96,000 confirmed cases of the coronavirus disease 2019 (COVID-2019) and 3300 confirmed fatalities.

COVID has an incubation period of 2 to 14 days and is spread through inhalation or contact with infectious droplets. Common symptoms include a fever, cough, sore throat, shortness of breath, exhaustion, and malaise. Most persons with the disease have a moderate case; however, certain people (typically the elderly and those with concomitant conditions) may develop pneumonia, acute respiratory distress syndrome (ARDS), and multi-organ failure. Many folks do not' show any symptoms. Specialized molecular assays used for diagnosis show the virus in respiratory secretions. Normal/low white cell counts, and increased C-reactive protein (CRP) are frequent test results. Even in people with no symptoms or moderate disease, the computed tomographic chest scan is typically abnormal (Singhal, 2020).

Depending on the level of sickness that is currently being treated, which considers clinical symptoms, laboratory and radiographic results, hemodynamics, and organ

function. COVID-19 is divided into five different categories according to criteria released by the National Institutes of Health (NIH). People with positive SARS-CoV-2 tests but no clinical symptoms that are compatible with COVID-19 are said to have an asymptomatic or presymptomatic infection (Cascella et al., 2023). The severity of COVID can range from mild to severe to fatal (Holstein, 2020).

People who are suffering from a mild illness include those who exhibit any COVID-19 symptoms, such as a fever, cough, sore throat, malaise, headache, muscle pain, nausea, vomiting, diarrhea, anosmia, or dysgeusia, but not abnormal chest imaging or shortness of breath. Patients with a moderate sickness have oxygen saturation (SpO2) levels below 94% on room air and have clinical symptoms or radiologic signs of a lower respiratory tract disease. Patients with a (SpO2) 94% on room air, (PaO2/FiO2) 300, a pronounced tachypnea with a respiratory frequency >30 breaths/min, or lung infiltrates >50% are considered to be suffering from a severe disease. Acute respiratory failure, septic shock, and/or multiple organ dysfunction are all considered critical illnesses. ARDS, which often develops around a week after the onset of symptoms in patients with severe COVID-19 disease, can cause them to become critically ill (Cascella et al., 2023).

The focus of treatment is mostly supportive. Strict infection control procedures at hospitals that include contact and droplet precautions are necessary for prevention, as are home isolation of suspected cases and patients with mild illnesses (Singhal, 2020). These treatments have a specific clinical value that depends on the illness's severity or certain risk factors. COVID-19 sickness has two phases in its clinical history, the first of which occurs before or soon after the beginning of symptoms and is characterized by the highest

levels of SARS-CoV-2 replication. During this phase of viral replication, antiviral drugs and antibody-based therapies are likely to be more efficient. The production of cytokines and the activation of the coagulation system, which results in a prothrombotic condition, are what propel the illness' final stages. Corticosteroids and other anti-inflammatory medications, immunomodulating treatments, or a combination of these treatments may be more effective than antiviral treatments in reducing this hyperinflammatory state (Cascella et al., 2023). Vaccines were also part of the treatment and prevention of COVID.

The Moderna COVID-19 Vaccine and Pfizer are the vaccines that have received approval. Most adults are protected against SARS-CoV-2 infection and severe COVID-19 by a two-dose first series of a bivalent vaccination. Depending on their age and prior COVID-19 immunizations, children receive two or three doses in the initial series. All the people over the age of five are encouraged to receive booster doses, according to the Centers for Disease Control and Prevention (CDC). A bivalent mRNA COVID-19 vaccine that incorporates the original SARS-CoV-2 strain is the one that is favored for booster dosage (Padda & Parmar, 2023).

According to the World Health Organization (2020), The majority of virus-infected individuals will experience mild to moderate respiratory illness and will recover without the need for special care. However, some people will get serious illnesses and need to see a doctor. Serious sickness is more likely to strike older people and those with underlying medical illnesses including cancer, diabetes, cardiovascular disease, or chronic respiratory diseases. COVID-19 can cause anyone to become very ill or pass

away at any age. Being knowledgeable about the illness and the virus's propagation is the best strategy to stop or slow down transmission. By keeping a distance of at least 1 meter between people, donning a mask that fits properly, and often washing your hands or using an alcohol-based rub, you can prevent infection in both you and other people. When an infected person coughs, sneezes, speaks, sings, or breathes, the virus can spread from their mouth or nose in minute liquid particles. From larger respiratory droplets to tiny aerosols, these particles are diverse. It is crucial to use proper respiratory techniques, such as coughing into a flexed elbow, and to confine yourself to your home and rest until you feel better.

In the study by Allaby et al. (n.d), the authors defined lived experiences as individual knowledge about the world obtained via direct, first-hand involvement in everyday events. As opposed to learning about people through a technical medium, it may also refer to knowledge of individuals acquired by direct face-to-face interaction.

Lived experience perspectives can be used to jointly identify gaps or problem areas, create research questions, interpret empirical findings. Lived experiences have advantages, such as higher-quality research being produced, relevant findings having a greater practical impact on the target population, an increased trust in organizations and research, and an increased sense of empowerment and hope in those who contribute (Beames et al., 2021). The following are the lived experiences of ICU nurses caring for COVID patients.

The ICU nurses said that a strong sensation of uncanniness pervaded every aspect of the situation during the initial wave of the COVID-19 pandemic. Entering the solitary

patient room seemed like walking into a strange and foreign environment. Even if the surroundings were physically familiar, the tight isolation precautions fundamentally changed their meaning, rendering them unsettling. According to one nurse, "it felt as if someone had moved the furniture in your flat without your knowledge. The surroundings and stuff are the same, but something about it no longer feels secure. There were various elements to this uncanniness. Personnel were first protected with PPE. The result was what was perceived as a "masquerade," which took the place of the organic flow of embodied connection. As a result, there were no close relationships with patients or among coworkers. Second, the ICU's private, separate patient rooms gave the impression that it was a little, isolated island. Third, the COVID-19 illness appeared erratic. As one ICU nurse put it, "we were skilled at handling specific patient types because, we were used to them." But unpredictable reactions were seen in COVID-19 illness patients. They (patients) would experience an unexpected cardiac arrest, we thought they may pass away at any time, we had no idea what was going on. Fourth, the participants claimed that feeling cut off from society in general, including their own families, contributed to some of the uncanniness. People in the outer world went about their daily lives unaware of the continuous tragedy. The ICU nurses felt isolated in their circumstances and found it difficult to comprehend that the outside world mainly ignored them and carried on with daily life (Koster et al., 2023).

Nikbakht-Nasrabadi et al. (2022) discussed ICU nurses' experiences caring for COVID-19 patients. The risk factors that can put ICU nurses in a state of mental and physical stress, a profound impact on their wellbeing and mental health include

witnessing death and exposure to illness, included stigma, job stress (such as lack of resources, redeployment, poor organizational support), isolation from loved ones due to concerns about transmission of the disease, a lack of ICU beds, numerous end-of-life decisions, a lack of adequate PPE, and loneliness. They may also exhibit signs of anxiety, despair, and post-traumatic stress disorder, according to a nationwide survey of 726 ICU nurses during the COVID-19 epidemic. Further, the authors reported that ICU nurses who cared for COVID-19 patients reported feeling tired, helpless, uncomfortable from their intense job, anxious, and worried about the patients and their families. caused by lengthy shifts and stress. Due to their critical states following infection, many patients in ICUs require mechanical ventilator support, renal replacement therapy, and in some cases, extracorporeal membrane oxygenation. ICU nurses are required to continuously monitor patients receiving these treatments at the bedside. Because some of them are required to collect clinical specimens such nasopharyngeal and oropharyngeal swabs, ICU nurses working in outpatient departments also face a significant risk of exposure to COVID-19. These patient-derived swabs from sick individuals contain SARS-CoV-2 and may spread the illness. High stress levels are associated with high levels of burnout and turnover. Negative effects on ICU nurses and patients have reportedly been linked to understaffing. These include greater rates of hospital readmissions, increased mortality risk among inpatients, and high levels of stress, turnover, and burnout among ICU nurses. ICU Nurses are more likely than other healthcare professionals to experience mental health issues. ICU nurses are also more prone to experience peritraumatic dissociation, depression, and anxiety symptoms (Hu et al., 2021).

In the study by Khademi and Imani (2022), the authors stated that negative experiences were encountered by ICU nurses in ICUs during the COVID-19 respiratory pandemic, including worries about one's own safety and vulnerability, loneliness, frustration, burnout, depression, anxiety, ignorance of the disease, and unpreparedness. Working in strange environments, lacking knowledge and experience in caring for infectious patients, particularly in emergency situations, fear of the unknown, exhaustion, difficulty caring for in protective clothing, blurred vision from foggy glasses, difficulty eating and drinking due to the difficulty of changing protective equipment, mood swings with changing patients' conditions, feeling inadequate, frequently witnessing patients' deaths, and concern of transmitting the disease are all factors that can make it difficult to provide care.

The research done by Moradi et al. (2021) focused on examining the experiences of ICU nurses encountered when providing care for COVID-19 patients. According to the study's findings, nurses had the following themes came out when providing care for COVID-19 patients: "organization's inefficiency in supporting nurses," "physical exhaustion," "living with uncertainty," and "psychological burden of the disease."

In their study, Fernandez et al. (2021) looked at the nurses' experiences during the first wave of the COVID-19 pandemic of caring for isolated COVID-19 positive patients in the ICU. The study looked at how nurses' relationships with patients, their own well-being, and how isolation affected patient care overall. The analysis found that all nurses consistently mentioned the following themes: (1) a general sense of uncanniness, (2)

intense feelings of confinement and co-isolation, and (3) heightened senses of bodily objectification, including how nurses experienced their patients and also themselves.

The main focus of my study is to explore the experiences of ICU nurses who care/ cared for COVID-19 patients in Lusaka, Zambia. Some of the anticipated themes are *physical symptoms* such as sleep disturbances, exhaustion, body aches, discomfort; *emotions* including stress, fear of being infected with COVID, anxiety, helplessness, worry*; care environment,* such as isolation, change practice guidelines, and use of PPE*;* and *social effects,* like additional responsibility (high nurse patient ratios), working in isolation and loneliness, and strained interaction with others.

Summary and Conclusion

COVID-19 is a global concern, it impacts healthcare personnel like ICU nurses who are fighting on the front lines to save the lives of those who are afflicted, especially ICU nurses. The problem is that from the onset of the pandemic ICU nurses continued to face personal worry and anxiety as a result of the pandemic's unpredictability and increased interaction with COVID patients.

Although researchers have investigated this issue, the topic has not been explored in this way: The gap in research is to investigate into what are the experiences of ICU nurses taking care of COVID patients in Lusaka, Zambia which may be different from the western world. ICU nurses caring for COVID patients have many more experiences apart stress, anxiety, and depression which have not been explored, thus the rationale to investigate more into the experience of ICU nurses who care for COVID patients in Lusaka, Zambia.

Chapter 3 will highlight the details of data collection, research design and rationale, participant recruitment, interview method, analysis approach, and the process of trustworthiness.

Chapter 3: Research Method

The purpose of this qualitative research study, examined through the lens of interpretative phenomenology, is to explore the lived experiences of ICU nurses who take care of patients with COVID-19 in the hospital environment in Zambia. The concepts of interest are ICU nurses' lived experiences, potential psychological and physical repercussions of caring for patients diagnosed with COVID in Zambia.

Chapter 3 will provide details of the research method, the researcher's role, the recruitment procedure, sampling design and how data will be collected and analyzed. This chapter will also cover issues of confidentiality and ethical procedures.

Research Design and Rationale

Research Question

The following main question and possible secondary probing questions were formulated in order to collect more evidence into the lived experiences of participant to align with my research question, problem statement, and the purpose of my study.

RQ: What are the lived experiences of ICU nurses who care for COVID 19 patients in the hospital in Zambia?

Possible secondary probing questions

RQ: Tell me how you feel about caring for a patient with COVID-19?

RQ:Tell me about how management supported you during the COVID pandemic?

Central Concepts and Phenomena

This qualitative research study used interpretative phenomenology to address the lived experiences of ICU nurses who take care of COVID patients. ICU nurses in Zambia

are health care personnel who works in an organized system for providing care to critically ill patients. ICU offers intensive and specialized medical and nursing care, enhanced monitoring capabilities, and multiple modalities of physiologic organ support to sustain life during a period of potentially fatal organ system insufficiency (Marshall et al., 2017). My study may contribute to the understanding of the experiences of ICU nurses in Zambia in the following ways: through lived experiences, it may draw attention to the untoward effects of COVID-19 on the physical and mental well-being of nurses in general and specifically practiced critical care nursing throughout the pandemic and how ICU nurses worked to uphold patient safety as well as their own safety.

Rationale for the Selected Topic

Qualitative methodology and interpretative phenomenology design were used for this study because through this I was able to explore the fundamental meanings as they are generated through participant perception and interpretation of their lived experiences (Renjith et al., 2021). Phenomenological studies typically involve a small number of participants and helps the researcher to grasp the interviewee's subjective perspective of a topic rather than generate generalizable understandings of huge groups of people (McGrath et al, 2019). The qualitative methodology supports the examination of participants 'experiences, while putting aside the researchers' prior notions about the phenomenon (Alhazmi & Kaufmann, 2022). In other words, application of phenomenology design supports investigation of actual events to learn more about how people interpret them (Alhazmi & Kaufmann, 2022).

I used phenomenology for this study to explore the lived experiences of ICU nurses who care for COVID patients. I conducted face-to-face interviews, using open ended questions, journaling, note-taking, audio recording, coding, and used MAXQDA to organize my data. The ability of phenomenological inquiry to give us a rich, in-depth comprehension of a particular phenomenon is its greatest advantage (Neubauer et al., 2019).

The Role of the Researcher

In qualitative research, the researcher's responsibility is to understand the ideas and feelings of study participants. As it entails asking people to discuss topics that may be extremely personal to them, this is not a simple task. In some cases, the participant's memories of the experiences being studied are current, while in other cases, it may be challenging to revisit earlier events. Although data are being gathered, the researcher's top priority is to protect people and their data. Before the research begins, a relevant research ethical review board must approve the mechanisms for such safeguarding and make them explicit to participants (Sutton & Austin, 2015).

In this study, my role was to interview, to record, to observe, and listen as I explored the experiences of ICU nurses who cared for COVID patients in Zambia. I used the recorder to collect my data when I was interviewing ICU nurses. In qualitative interviews, face-to-face interviews have long been the standard. The rapid digitalization of healthcare has led to an increase in the use of video, telephone, and internet for interviews (Saarijärvi & Bratt, 2021).

Taking notes can help ensure that all interview questions are answered, guide follow-up questions so that the interview flows naturally from the interviewee's lead, and act as a backup in the event that the recorder fails. Audio recording allows the interviewer to focus on the interview and create rapport with the interviewee. Participants should be notified that audio recording would be utilized for data gathering and that they can opt out of the study if they wish to (DeJonckheere & Vaughn, 2019).

The names of the ICU nurses were de-identified, and confidentiality was maintained. Informed consent was obtained; the procedure establishes a confidentiality agreement between the researcher and participant to maintain identity, personal information, and answers will not be shared with anyone outside the study. As a researcher, it is important to enhance rigor and transparency in order to lessen potential biases. The following are the biases that may occur during research.

Bias in language and leading questions is possible. Biased answers may be the result of questions that guide participants in the direction of likely outcomes. Simple questions should be used, and words that can generate bias should be avoided. Using open-ended, semi structured questions and avoid using leading questions that can sway a participant's response to support a specific premise will address the issue of biases (DeJonckheere & Vaughn, 2019). I had one main open-ended question and then probing questions were based on their comments such as “you said….” Tell me more about…”

Methodology

For this research study, I used face-to-face interviews in order to observe body language, facial expressions, and other nonverbal signals. As an interviewer during the

face-to-face interview, journaling in addition to audio recordings were used to record participants experiences, and also take note of any cues which other interview approaches cannot. Face to face can provide the interviewer with a wealth of additional information that can be added to the interviewee's spoken response to the questions (Saarijärvi & Bratt, 2021). During the interview, I used journaling, note-taking, audio recording, coding, and used MAXQDA to organize my data. Since qualitative researchers usually end up analyzing a variety of data forms, MAXQDA is a software that facilitates systematic and expeditious data analysis for researchers (Marjaei et al., 2019).

Participant Selection

The targeted population was ICU nurses who cared and/or still caring for COVID patients in Lusaka Zambia aged 20 to 65 years. The exclusion criteria were nurses not working in the ICU, living outside Lusaka, Zambia, and ICU nurses younger than 20 years and older than 65 years. My sample consisted of five to seven participants. After getting permission from the ICU director, ICU nurses in Zambia were recruited via fliers that I posted on the board in the ICU unit's break room because this is where ICU nurses sit during their 15-minute and lunch breaks, making it possible for them to notice the flyers and reply. The flier was used for recruiting participants and had my contact number and email so that interested participants could reach me. After the selection was completed, I emailed the consents to all the participants. It was communicated in the invitation letters that the interview will be 30 – 60 minutes, participation is voluntary, and without the participants' permission, no information will be shared with anyone.

For my research, I used purposive sampling to select ICU nurses who care for COVID patients in Zambia. Using purposive sampling the researcher chooses participants who have traits that the researcher needs (Palinkas et al, 2015). I employed constant comparative methods reviewing codes and deriving themes which are of the most common approaches to qualitative data analysis; I planned to interview five to seven ICU nurses from Zambia, but the actual number was determined by data saturation. When a category is saturated, no new data is being discovered that would allow a researcher to further define its characteristics. The researcher develops an empirical conviction that a category is saturated as repeatedly observes instances that are identical to one another. (Saunders et al., 2018).

Instrumentation

I used the in-depth face to face interview for this study, using the interview guide the main interview question and examples of possible follow-up probing questions were emailed to the invited interviewee. Interviews gave me data on the lived experiences of ICU nurses in who care for COVID patients in Zambia which included permission to conduct an audio-recorded interview. I also let the interviewees know that the interview is voluntary if they decide to take part and that they have an option to withdraw from the study at any time when they change their mind. Being in this interview would not pose any risks beyond those of typical daily life. Maintaining confidentiality was discussed. I labeled my participants with numbers, for example participant number 1, 2 etc. or letters for example participant A, B etc. instead of using their real names.

Process of Recruiting and Data Analysis

As an interviewer it is key to recruit participants (ICU nurses) who can be able to articulate their lived experiences while taking care of patients with COVID-19 in Zambia. The aim of recruiting participants who are able to articulate their experiences gave me an opportunity to gather rich information from these ICU nurses. During the process of recruiting, permission was given by the National health research authority in Zambia as well as from the two institutions where I conducted the interviews for ICU nurses who cared for COVID patient. During the process of recruiting, participants were made aware of the purpose of the study and assured that the information which will be obtained will not be shared without permission.

Data Analysis Plan

One of the most critical but least known phases of qualitative research is data analysis. Data may be thoroughly analyzed to reveal the complexity of human behavior, guide treatments, and give people's real-world experiences a voice (Raskind et al., 2019). In order to collect data during interviews, I used open-ended questions and utilized an audio recorder to capture answers from the participants. After the interview was done, I listened to the interview recording, transcribed the data, corrected any grammatical errors, and used software for qualitative data management, such as MAXQDA.

Qualitative data analysis can be labor and time intensive. One tool that researchers utilize for data analysis is MAXQDA. Data can be coded, categorized, analyzed, and transcribed using MAXQDA. It is imperative that researchers remain cognizant of the potential applications of data analysis software, like MAXQDA. Data is

imported from web sites, spreadsheets, focus groups, interviews, photos, audio, and video files (Marjaei et al., 2019). MAXQDA is a great tool that will help me organize data and make sense of it.

Issues of Trustworthiness

Credibility, transferability, dependability, and conformability are all concepts used to describe the trustworthiness of qualitative content analysis. These steps, when taken together, provide a clear indicator of the study's overall credibility. Every element of the analysis process, including the preparation, organization, and reporting of results, should be scrutinized for reliability. One factor that supports a researcher's ultimate argument about the integrity of a study is demonstrating the dependability of data collecting (Elo et al., 2014).

Social change is an important issue in the rise in practice and in qualitative research. Qualitative research has the potential to contribute to positive social change by providing rich, in-depth, and context-specific information on a particular issue (Estacio, 2014). Positive social change can be achieved in a variety of ways, both major and little (Walden University, 2017).

Credibility

The degree to which the findings are consistent with reality is what is meant by credibility (internal validity). Credibility also covers the following areas like; the criteria used to select participants, data collection method, and appropriate research method. Building trust with the participants will enable me to learn more about their experiences providing care for COVID patients. Accurate data analysis is key for researchers since it

enables researchers to draw reliable conclusions from their data. Long-term involvement, triangulation, saturation, rapport-building, an inclusive coding strategy in which all themes are coded rather than being reduced to suit predetermined criteria, and reflexivity are all methods to increase trustworthiness (Nyirenda et al., 2020).

Transferability

Transferability refers to the ability of research findings to be applied to different contexts. The goal of qualitative research is not replication, it is directed toward providing in-depth explanation and meanings rather than generalizing findings. Qualitative research is conducted on a particular set of population patterns and descriptions from one setting may be applicable to another, according to qualitative researchers. By applying findings to new contexts, qualitative research aims to deepen understanding (Stahl & King, 2020). This will help different healthcare facilities to appropriately prepare nurses for future pandemics.

Dependability

Dependability is important to trustworthiness because it establishes that the researcher's findings as consistent with the data they collected. Dependability will help me provide a detailed description of the research method being used in this study. I provided reassurance that the conclusions were reached because they were compared against the recordings. Therefore, careful data collection methods and processes can guarantee the trustworthiness of the final data set, by making sure that there is nothing missed in the research study and also that the researchers' final report is not misguided (Nyirenda et al., 2020).

In the context of qualitative research, validity is understood as resulting in reliable and logical conclusions. Before doing the research itself, it is crucial to choose the tools and methodologies that will be utilized to establish validity and reliability. An effective evaluation of the literature is necessary to determine which procedures will be effective before conducting reliable and valid research. To affirm the study purpose and add another level of authenticity to the research effort, reliability and validity processes should be carried out concurrently with the research processes (Thakur & Chetty, 2020).

Confirmability

Confirmability (objectivity) is the ability of a researcher to interpret data without bias, including social-desirability bias, which can be present since researchers create and use the tools. The key to managing such bias is to maintain reflexivity. Confirmability is very important to my study because it will help me manage my personal biases. When data are double and triple checked constantly compared against the recordings during data collection and processing to ensure that findings are free from bias, so that the validity of qualitative data is guaranteed. A precise coding scheme that identifies the codes and patterns found during analysis might serve as documentation for confirmability (Nyirenda et al., 2020).

The use of constant comparison means that one piece of data (for example, an interview) is compared with previous data and not considered on its own, enabling researchers to treat the data as a whole rather than fragmenting it. Constant comparison also enables the researcher to identify emerging/unanticipated themes within the research project (Anderson, 2010).

Constant comparative against recordings was done by looking at the sources of data, which can be obtained during conducting interviews and looking at other literature resources. Constant comparative against recordings was done by comparing data sources which is interviews for this research study. I compared and contrasted the recorded interviews to make sure the participants were not contradicting themselves and are telling the truth. This improved the quality of data analysis. I looked at the codes and themes, how they are different, if the codes are changing, and if the participants are facing the same.

Ethical Procedures

A set of rules that direct the study designs and procedures are known as ethical considerations in research. Voluntary engagement, informed consent, anonymity, secrecy, forming mutual relationships, and results communication are some of these principles. An ethical practice that is frequently seen as a requirement for developing trust with research participants and helping the researcher get rich information from them is maintaining or forming mutual relationships. The guiding ethical principle for performing qualitative research is informed consent and researchers must respect informed consent as a matter of ethics. Maintaining participant confidentially while conducting research is very important. When conducting research, researchers must adhere to the ethical principles of maintaining confidentiality and privacy. It is critical to perform qualitative research with honesty and sincerity (Eungoo & Hee-Joong, 2021).

Summary

The process of gathering and interpreting numerical data is known as quantitative research. This qualitative research study will be used to address the lived experiences of ICU nurses who take care of COVID patients. For this research study, purposive sampling will be used to recruit participants and face-to-face interviews to gather data. During research trustworthiness of qualitative content analysis is key. The following concepts must be present during research: credibility, transferability, dependability, and confirmability, and ethical considerations must be strictly followed.

The next chapter will cover IRB approval # is 11-17-23-0724270, data collection, data analysis and coding. The next chapter will also demonstrate the findings of the research study.

Chapter 4: Results

Introduction

Exploring the lived experiences of ICU nurses who provided care for COVID patients was the aim of the study. I went to Zambia to conduct face to face interviews with the ICU nurses at two different health care institutions. The purpose of this study was to explore the lived experiences of ICU nurses in Lusaka, Zambia, who provide care for patients with COVID-19. The study has unfolded the lived experiences of ICU nurses who cared for COVID patients. With better understanding of ICU nurses experiences will lead to positive social change by improving clinical practice. This chapter provides information on the study results, research setting, data collection, identification of themes, and evidence of trustworthiness.

Research Setting

I conducted face-to-face interviews in two institutions, and each institution set up an office in the ICU for this purpose. All of the ICU nurses who attended the interviews found the office comfortable because it was close to the ICU unit, and they were accustomed to the setting. Participants were chosen using the inclusion criteria discussed in the previous chapter. Participants got in touch with me to express interest in participating in the interview using the phone number which I supplied on the flyer their manager posted on the ICU unit and on the ICU nurses What's App group.

Demographics

I conducted my study from two hospitals and conducted interviews with seven participants from each hospital between the age of 20 to 65. One of the participants at one

institution contacted and emailed me to express her desire to take part in the interview, but she was unable to do so since she was out of town on vacation. The other participant from the other institution gave her consent to do the interview, but she failed to show up on the scheduled day. All the participants responded by giving consent via email. All participants from the two institutions are of African descent, having grown up in Zambia and presently residing in Lusaka, Zambia.

Table 1

Institutional ICU Bed Capacity

Bed capacity	Data
Institution 1	12
Institution 2	10

Table 2

Participant Demographic

Demographic information	Institution # 1	Data	Institution # 2	Data
Age 20 – 40		4		5
Age 41 – 60		3		2
College degree		7		7
Zambian		7		7

Data Collection

Data collection was completed in March 2024. I had to physically fly to Zambia from the United States in order to conduct face to face interviews with the ICU nurses from two different hospitals. I gathered the data through journaling and recording with two digital recorders that were bought from Amazon. During the first interview, I noticed that one of the digital recorders I was using as a backup was not functioning, so I decided

to use the telephone audio recorder as a backup. Thereafter, I had no issues with the equipment. I successfully collected data on all the interviews, and I did not have to reschedule any of my interviews. Journalling was hard for me because I felt like my attention was affected somehow.

Each interview lasted 30 to 60 minutes. I started the interview process by discussing the issues of confidentiality and making the participants feel comfortable during the interview as well as informing them that recording will be done. ICU nurses who cared for patients with COVID-19 were very free to share their lived experiences. Participants had knowledge about COVID-19 pandemic, but some participants were not able to discuss their lived experiences in detail. As a result, I used probing questions in order to get more in-depth response about their lived experiences while taking care of COVID patients in the ICU. All of the interviews went quite well, with the exception of some background noise from outside the building that I could hear inside.

Data Analysis

Participants from two health care institutions provided the data that was collected. During the process of collecting data, I discovered that saturation was reached after the five participants for the first institution and for the second institution saturation was reached after the six participants. However, I continued to interview participants, so I did some additional probing just to see if I could get new information. For the first institution I had two extra participants and from the second institution I had one extra participant. It was evident that by the seventh participant from both institutions that I had enough data

to provide better understanding of the lived experiences of ICU nurses who cared for COVID patients.

I transcribed my recordings to word document using Turbo scribe. I went back to listen to confirm that the information transcribed is accurate and I also used my journalling to fill in any data which was missing in the transcription. Then I used MAXQDA to develop codes. The following are the themes that came up: (1) Education, (2) Emotional and psychological effects, (3) Nursing shortage, (4) Management support, (5) Risk of infection, and (6) PPE shortage. Based on the category, each participant verbiage was added (see Table 3 to 8).

Evidence of Trustworthiness

Credibility

Credibility is the degree to which the findings are consistent with reality and is what is meant by credibility (Nyirenda et al., 2020). During the interview, while the ICU nurses were sharing their experiences, I identified similarities between their stories. All the participants (ICU nurses) had an experience where they thought that they were not adequately prepared for the pandemic, and they did not know the right way to care for COVID patients because there was not so much information out there on COVID-19. I relied on data saturation. Early in the interview, saturation was noted, but I decided to continue with the interviews because I wanted to probe further and hear more about their experiences. No new insights were achieved, so I ended the interviews with the seventh participant for the first and second institution.

Transferability

Transferability refers to the ability of research findings to be applied to different contexts (Nyirenda et al., 2020). Transferability has been used in my data analysis. A clear description of the content has been given in order to allow the readers to be able to understand the experiences of ICU nurses who cared for COVID patients from the data I have provided. This will help other readers to use or transfer the details of the information without having to replicate the results and the findings of the study.

Dependability

Dependability is important to trustworthiness because it establishes that the researcher's findings as consistent with the data, and when data collected answers the research question (Nyirenda et al., 2020). Research can reach dependability by using data triangulation. Data triangulation aims to improve the validity and reliability of data by comparing many types of evidence and minimizing the errors or biases (Johnson et al., 2020). To ensure the accuracy and dependability of the data collected, I compared my notes to the verbatim transcription from my audio recording. My population were ICU nurse who cared for COVID patients in Zambia. In order to interview my participants, I flew to Zambia. My interviews were conducted in two different institutions. I conducted interviews with participants throughout the week at various times of the day, including the morning, afternoon, and evening, as I had 2 weeks to finish the process in both institutions.

Confirmability

Confirmability is the ability of a researcher to interpret data without bias, including social-desirability bias, which can be present since researchers create and use the tools (Nyirenda et al., 2020). In order to address confirmability, I recorded and journalled all my interviews and transcribed my interviews using my audio recording as well as my notes I had written during the interview. I was also vigilant in checking and rechecking my data to ensure I was interpreting it exactly the way the participants said it.

Study Results

The purpose of this study was to explore the lived experiences of ICU nurses who take care of patients with COVID 19 in the hospital environment in Lusaka Zambia.

The main question:

RQ. What are the lived experiences of ICU nurses who care for COVID 19 patients in the hospital in Zambia?

Possible secondary probing questions

1. Tell me how do you feel about caring for a patient with COVID-19?

2. Tell me about how management supported you during the pandemic?

The themes are expanded upon and outlined in the tables below:

Theme 1: Education

Concerns regarding a lack of knowledge and training regarding the care of COVID patients in the ICU were expressed by every participant from both institutions. They all agreed that this was a novel and distinct type of pandemic. At the time, no study

had been conducted, therefore they were unsure of how to treat COVID patients (see Table 3).

Table 3

Response: Education

Theme	Description of theme	Participants	Institution # 1 participants response	Participants	Institution # 2 participants response
Education	Participants lacked knowledge and information on how to care for COVID patients.	P1	When a COVID patient is in an ambulance, desaturating, and this patient is coming on a nasal prong. Not that the nurse or whoever was referring wanted that, but it was lack of protocol, and lack of guidance on what to do.	P1	There was no guidance on how to care for COVID patients, especially in terms of nutrition. It was a huge problem because patients would desaturate when equipment is removed for feeding. I feel we lost more patients who did not receive the nutrition.
		P2	We lacked knowledge/information on how to manage COVID patients, it was like trial and error.	P2	COVID pandemic was new to us and that it just come up, there was no information at all.
		P3	When ICU nurses were told that they were coming	P3	There was no education about COVID. We were not

		to work in COVID ICU or any other COVID ward, they used to refuse because we lacked information on how to manage COVID.		even sure of the mode of transmission. All we knew was that it was an airborne disease.
	P4	COVID being such a worldwide pandemic, and it was the first of its kind. It was my first time experiencing it, it was difficult managing patients with COVID-19 without information.	P4	I think taking care of COVID-19 patients needed us to be critical thinkers because patients did not all present in the same way. The patients presented in different ways.
	P5	Personally, the first wave was so challenging, because we were managing a disease, we did not have information about. Later, infection prevention training was given to us because we were avoiding spreading the COVID	P5	We found that work was not easy, quality nursing care was not really being delivered because of lack of information.

		infection outside.		
	P6	At the ICU perspective, we needed knowledge/information on how to manage COVID	P6	The question which kept coming to me was you are sending us to work in the ICU with COVID patients, have you trained us?
	P7	The only training we had was on how to use the PPEs and on how to manage cases, not everyone was trained, only a small group was trained.	P7	We did not have the knowledge of how to care for COVID patients. It was a huge challenge especially for nurses who were not ICU certified and working under instructions in an emergency situation was something that was difficult.

Theme 2: Emotional and Psychological Effects

Every participant admitted that seeing so many deaths during the pandemic had an emotional and psychological impact on them. Since they could not access psychosocial counseling, supporting one another, talking to their families about their experiences, and praying together was helpful (see Table 4).

Table 4

Response: Emotional and Psychological Effects

Theme	Description of theme	Participants	Institution # 1 participants response	Participants	Institution # 2 participants response
Emotional and psychological effects	Participants had the fear of getting sick and dying from COVID. Participants were stressed, anxious, depressed, traumatized	P1	We feared for our lives as nurses. Emotionally, psychologically, spiritually, physically, we were drained as nurses in particular. Patients experienced the fear of being in ICU, the fear of having the disease, the fear of being separated from their family members, the fear of eating hospital food, the fear of not trusting us as nurses, because we were not in	P1	It was just a traumatizing event for me to see patients on CPAP struggling to breathe, despite being given so much oxygen. It was hard to find that patients could not get relief from the COVID symptoms. One died and then they came and collected the body, I felt so bad because the other patients were seeing what was happening, it was a very sad situation.

		direct contact with them where they could see the face of the person who is nursing them.		
	P2	I had so much fear. It was so traumatizing. I cried a lot, I felt like I was a relative to my patients, because I was the only one at the bedside. All they would do was hold on to my hands when they had difficulties breathing until they died. I was helpless, there was nothing that I could do for them. I also thought about my family because we camped at the hospital. I talked to my family	P2	It was traumatizing in the sense that you are talking to a patient the next few minutes they are dead, it was really stressful. Patients that came to the ICU would require a lot of attention and a lot of oxygen, so it was quite challenging because most of the time oxygen was in short supply. We were stressed out; we had a lot of patients who needed to be on oxygen.

		on the phone, and I could tell that they were worried about my wellbeing.		
	P3	Watching patients die within a space of a few minutes was traumatizing. Seeing doctors, patients, and fellow nurses dying from COVID, I feared for my life and my family. Each time I had a chance to go home, I did not want my children to touch me. I would fear to be near them, thinking they would catch COVID.	P3	The pandemic period was quite emotional. It was not a good experience. Sad news all the time. Death was all over. As ICU nurses were emotionally stressed, we just supported each other, prayed together, there was great teamwork, no counselling services were offered
	P4	Seeing fellow workmates and patients die, I was	P4	The pain of seeing someone who was talking to

		afraid of catching COVID. I always thought that I could not live. We worried because we were far away from our family. We stayed at the hospital, and we were surrounded by sounds of mourning all the time. It was such a bad situation.		you an hour or two ago and then they die was so painful. Seeing patients who were able to do some of the activities of daily living die was very painful for us as nurses. I had the fear of getting infected and taking COVID to my 6 months old infant. I was traumatized and stressed.
	P5	We had to experience a lot of deaths. I feared for myself and for the family as well. We had two nurses who died from my team in the first wave. Their deaths affected me to a point where I said	P5	It was a stressful moment, I was emotionally drained, and developed insomnia. At some point I became breathless because of the fear. As ICU nurses we went through a very traumatic experience;

		to myself that it was better for me to resign, because I might be next to die. My family still needs me. Watching a patient struggling to breathe, when you have exhausted all forms of care and just seeing dying whilst you are there by the bedside, helpless, that was so sad and painful.		we saw patients become restless. failing to breathe, removing CPAPs and oxygen, and we also saw them desaturated and die.
	P6	Seeing patients dying in great numbers was so traumatizing. It was really a sad moment. I was affected so badly, whereby, even sleep became a challenge.	P6	I was so stressed, tired, overwhelmed, and traumatized. I had the fear of catching COVID. The fear of death. I was also affected by the death of young people.

	P7	The way patients were dying was so fast, I felt discouraged at some point. I felt depressed. I was affected emotionally and psychologically. I was so scared; I did not know what to expect. It was so depressing. I was very traumatized such that sometimes I did not feel like going to work. Every time I had a chance to go home, I was scared that I might be carrying COVID, and I might give it to my family.	P7	It was stressful, we worked split shifts with the same PPE for some hours, it was overwhelming, I was shaken, and scared. A lot of patients died; recovery rate was very low. Patients required a lot of oxygen, but at some point, we did not have enough. So that period we lost a lot of patients due to inadequate oxygen supply. It was a sad experience. Very sad.

Theme 3: Nursing Shortage

Every participant acknowledged the severe lack of ICU nurses. To help with the ICU deficit, nurses from other hospitals and clinics arrived, however this presented a

significant obstacle as many nurses lacked ICU certification. Therefore, in addition to caring for patients, ICU trained nurses had to train additional nurses (see Table 5).

Table 5

Response: Emotional and Psychological Effects

Theme	Description of theme	Participants	Institution # 1 participants response	Participants	Institution # 2 participants response
Nursing Shortage	Participants shared concerns about staff shortages.	P1	We were not staffed. But we received backup from other hospitals. Nurses from other hospitals and clinics came to beef up staffing in our various departments.	P1	P1. we did not have enough manpower in the ICU because ICU nurses kept being infected with COVID.
		P2	We were not fully staffed. Nurses from other hospitals and from the clinics.	P2	We were short staffed. unfortunately, some of the ICU nurses even got the disease and then died.
		P3	We were not fully staffed. We needed more nurses because nurses used to catch COVID and would be on isolation and some died as a result there was always a	P3	We were understaffed in the ICU, but teamwork was great.

		shortage of nurses.		
	P4	We were short-staffed, but as time went on, they managed to bring in nurses from other hospitals as well as clinics.	P4	Despite having shortages, teamwork was there. Doctors helped out with some of the nursing duties like feeding, medicating, and suctioning patients. The teamwork was excellent.
	P5	At the beginning of the pandemic, we had a critical staffing issue, but as time went by staffing was better because we had other nurses from other hospitals and institutions to help with staffing shortage.	P5	As ICU nurses we were short staffed. All ICU nurses who were on leave were called to come back to work. In the ICU we give total care to patients, but the shortage was bad such that we had to prioritize and focus on the most important things to save life.
	P6	We were short staffed because some of our coworkers in the ICU were	P6	We did not have enough manpower, because we shared ICU

			sick with sick with COVID and some died. Management got other staff from other hospitals in order to take care of the nursing shortage issue.		nurses between two institutions.
		P7	We had shortages of ICU nurses, so management had to bring in nurses from other hospitals to come and beef up the manpower in the ICU.	P7	Unfortunately, ICU trained nurses were scarce during the pandemic, so we were short staffed.

Theme 4: Management Support

Management provided help of some kind to each and every participant. Seven participants from the first institution camped at the hospital; despite being promised incentives, they were not paid. The remaining seven individuals from the second hospital never camped at the hospital. All of the supplies and drugs required for the ICU to run efficiently were available (see Table 6).

Table 6

Response: Support

Theme	Description of theme	Participants	Institution # 1 participants response	Participants	Institution # 2 participants response

Management support	Participants received some kind of support from management.	P1	When there's a pandemic, we left our families and we stayed at the hospital. Management gave us accommodation, meals, and glossaries. Incentives were promised to us, but we have not been paid up to now. They also gave us moral support.	P1	P1. Management provided meals and transport to and from work
		P2	We left our families and stayed at the hospital so during the pandemic the hospital gave us accommodation, meals, and supplies. Management would come around and check on us and how everything was running.	P2	Apart from seeing that the ICU had all the equipment and that we had PPE to use. Management provided meals and transport to and from work.
		P3	Management gave us meals, accommodation, and supplies. In terms of equipment we	P3	Management provided meals and transport to and from work

		needed in the ICU, it was provided. We were supported, but not financially, incentives were promised, and we were not given.		
	P4	No incentives were given, but only accommodation, meals, and supplies were given to us. Management also provided PPE and equipment.	P4	Management gave us moral support, provided us with meals and transport to and from work.
	P5	The hospital and the management managed to supply us with equipment for smooth running of the ICU, meals, internet, and accommodation. No incentives were given to us.	P5	Management provided meals and transport to and from work for us.
	P6	Management provided food, groceries, and accommodation.	P6	The support we were given by management was meals and transport to and from

				work. Management would come to the institution to offer us some encouragement.
	P7	They provided accommodation, meals, and groceries. They also came around to encourage nurses and give us moral support. No incentives were given We lost some ICU nurses to COVID. When we came out of the ICU, our scrubs would be completely wet with sweat because of the kind of PPE we were given, that also put us at risk for infections, including COVID.	P7	The support we were given by management was meals and transport to and from work.

Theme 5: Risk of Infections

Every participant acknowledged that they had been exposed to COVID and that they were unaware of any protective measures against the virus. Not every ICU nurse

received training on PPE usage. COVID killed some ICU workers and made others sick (see Table 7).

Table 7

Response: Risk of Infection

Theme	Description of theme	Participants	Institution # 1 participants response	Participants	Institution # 2 participants response
Risk of infections	Participants stated that they were exposed to COVID Some of their coworkers got side and some died.	P1	There was a time when a suggestion was made that we could use simple gowns, but we refused because we saw it as a risk for COVID.	P1	P1. ICU nurses were exposed to COVID due to long work shifts.
		P2	We were exposed, but I never had COVID. Sometimes, I had all the signs and symptoms, but each time I tested the results were negative. We stayed at the hospital, worked for two weeks, and then went and saw our families. Before we left the	P2	One day, I reported for work, and I felt unwell, so I decided to get a swab and I tested positive, so I had to go back home in isolation and on treatment.

		hospital, we tested for COVID and if you tested positive, you have to be isolated at the lodge where nurses were treated.		
	P3	Due to exposure during the pandemic, I contracted COVID, but it was not severe.	P3	We were exposed, but during the first wave, I didn't get the COVID, I got it in the third wave. The first and the second, I was okay.
	P4	During the nursing of COVID patients in the ICU, infection prevention was the first training, because we were avoiding the spread of COVID infection, how to prevent yourselves, and how to don and doff PPE.	P4	I contracted COVID and I became so sick. I could not breathe. I remember I was gasping for air so I could not sleep. I had to be in the sitting up position. I tried to breathe, but it was very difficult for me to breathe. I was treated.
	P5	I never contracted COVID, but after coming	P5	There was a time when I suffered from flu. I was scared

		out of ICU, that's the time I contracted COVID. At first, I did a test, but I suddenly just started having chest pains, but I was put on treatment, and I did some labs and images. Due to exposure, later, I contracted COVID for the send time, but I recovered well.		because I lost the sense of smell and test, though I tested negative. I could not smell or taste. I tested for COVID three times, and it still came out negative.
	P6	I wanted to stay home because I thought I was exposing myself.	P6	We had to wash and reuse, this course was also a health hazard for us.
	P7	At one point the ICU ran out of quality PPE and they received a quality that was compromised. ICU nurses reacted to PPE material. Shifts had split shifts; nurses would do 3 or more	P7	I contracted COVID, it was hard. At first, I did not know. I thought maybe I was fatigued. When I moved a short distance, I would feel tired, I experienced joint pains, and a headache, I would become breathless, then the symptoms

			hours shifts because we were required to stay in the ICU for the entire time.		would disappear.

Theme 6: PPE Shortage

Every participant admitted that their PPE was inadequate. They requested management to provide them with appropriate PPE after they were given compromised PPE at one point. A portion of the PPE, including masks, gowns, and gumboots, were also recycled. To disinfect the gumboots, they used chlorine (see Table 8).

Table 8

Response: PPE Shortage

Theme	Description of theme	Participants	Institution # 1 participants response	Participants	Institution # 2 participants response
PPE shortage		P1	We were told to be working using simple gowns. But we refused because COVID is a deadly disease.	P1	P1. We used Arcteryx overalls which we would recycle together with the gumboots. The other PPE was not adequate.
		P2	We had PPE that covered our whole body. Some days, I would feel very weak and when I check the saturations and they	P2	The PPE we had when COVID started, once you put on it and went into the ICU, you cannot take a break. We did split shifts and if we run out of

		would be low because I stayed covered for long hours.		supplies the other team of ICU nurses would bring by the door.
	P3	We recycled gowns, masks, and gumboots.	P3	We had to recycle some of the other PPE.
	P4	There was a shortage of PPE.	P4	PPE was in short supply. I had problems breathing because of being in the PPE for hours.
	P5	We did not have enough PPE	P5	When you put on a PPE, you cannot go to the toilet, you can't eat, you can't do anything. But there used to be times when you were so pressed, you wanted to go and change. But then when you change, you find that there's nothing to use. The PPE itself was a problem, we had to recycle.
	P6	We were supplied with PPE. Though we used to soak the gumboots and the Arcteryx gown in chlorine and	P6	There was a PPE shortage, and some of it we were recycling. We worked split shifts, once you are out of the ICU, whenever PPE you needed

		then reuse them.		to recycle is treated with chlorine.
	P7	We recycled some of the PPE.	P7	We had a shortage of PPE. We worked split shifts 6 hours at a time because of the shortage

Summary

The purpose of my study was to explore the lived experiences of ICU nurses who take care of COVID patients during the pandemic. There were 14 participants in this study from two institutions in Zambia. All participants were recruited using flyers used with permission, which were placed in the ICU breakroom. Face to face interviewer where conducted. These interview recordings were transcribed prior to analyzing the data. Six themes emerged from the data that was collected. Because the COVID-19 pandemic was unfamiliar to the participants, ICU nurses were not well-versed in the appropriate protocols for managing this patient population. As a result, there were a number of deaths in the ICU, the nurses were affected emotionally and psychologically, but there was no counseling accessible to them at the time. ICU nurses were devoted to their profession; they continued to care for COVID patients in the absence of counselling or compensation.

In Chapter 5, I will discuss the theme that emerged from the analysis, make recommendations, and include final conclusions based on the findings from this study.

Chapter 5: Discussion, Conclusion, and Recommendations

Introduction

This qualitative interpretive phenomenology study was designed to explore the lived experiences of ICU nurses who take care of COVID patients during the pandemic from two institutions in Lusaka, Zambia. I used the following questions to complete my research.

The main question was:

RQ. What are the lived experiences of ICU nurses who care for COVID 19 patients in the hospital in Zambia?

Possible secondary probing questions

1. Tell me how do you feel about caring for a patient with COVID-19?

2. Tell me about how management supported you during the COVID-19 pandemic.

I used the Roy adaption model nursing theory by Sister Callista Roy as my theoretical framework. I had one main question and two probing questions. I used 14 ICU nurses who cared for COVID patient from two hospitals in Lusaka, Zambia. Participants' ages range between 20 to 65 years old. The results of the study gave an understanding of the lived experiences of ICU nurses who take care of COVID patients during the pandemic. The study also provided information on how bad the pandemic was and how limited the information was about it and the challenges in patient care because it was new, the entire globe has never experienced before. Six themes emerged from the study: education, emotional and psychological effects, nursing shortage, management support,

risk of infection, and PPE shortage. The experiences that the ICU nurses expressed in my study aligned with the theoretical framework identified.

Interpretation of Findings

ICU nurses were neither trained nor equipped to care for COVID patients during the initial wave of the COVID pandemic. Because there were no established protocols, all care was provided through trial and error. So, they just did whatever care strategy worked for them. When the ICU nurses had free time, they would use the internet to research the approaches other countries were taking to treating COVID-19 patients. Inadequate understanding regarding the management of COVID-19 patients resulted in both patient fatalities and COVID-19 infections and mortality among ICU nurses. ICU nurses were devoted to their work and continued to provide their services despite all the difficulties. Throughout the epidemic, ICU nurses received moral support from management, they (ICU nurses) supported each other and prayed together, and shared concerns and fears with their families.

In Chapter 2, I reviewed a number of articles that examined the experiences of ICU nurses who provided care for COVID-19 patients in other countries. Upon reviewing the literature, I learned that the study's findings indicated that the ICU nurses experienced psychological and emotional distress, that they were initially unaware of COVID, that there was a scarcity of PPE, that there was a risk of infection, and that management provided some kind of support to the ICU nurses. My study's results were very similar to those I found in the literature review.

Education

ICU nurses voiced their concerns regarding a lack of knowledge and training regarding the care of COVID patients in the ICU were expressed by every participant from both institutions. They all agreed that this was a novel and distinct type of pandemic. Since no research had been done at the time, it was unclear of the best ways to care for COVID patients. ICU nurses did not have access to COVID-19 protocols or training at the start of the pandemic (see Table 3).

Emotional and Psychological Effects

COVID was a worldwide pandemic and the first of its kind. Every participant admitted that seeing so many deaths during the pandemic had an emotional and psychological impact on them in such a way that some of the ICU nurse experienced insomnia, stress, anxiety, depression, and trauma. Since they were unable to receive psychosocial counseling, they found supporting one another, talking to their families about their experiences, encouraging one another, teamwork, and praying together as a group was beneficial (see Table 4).

Nursing Shortage

Every participant acknowledged the severe lack of ICU nurses. To help with the ICU deficit, nurses from other hospitals and clinics arrived, however this presented a significant obstacle as many nurses lacked ICU certification. ICUs are specialized units, thus hiring nurses without ICU certification was not a safe practice. However, management was also focused on finding a solution to the shortfall. Non-ICU certified nurses from other clinics and hospitals were not trained in the use of ICU equipment,

suctioning techniques, what to do in the event of a cardiac arrest etc. It was therefore quite challenging on the part of the ICU qualified nurses to train new nurses in addition to providing patient care (see Table 5).

Management Support

Management provided help of some kind to each participant. Seven participants from the first institution camped at the hospital, they were offered accommodation, meals, and supplies such as sanitizers, bathing soap, toothpaste, body lotion, washing detergent, and domestics for cleaning the toilets. ICU nurses at the first institution were not provided incentives, despite management's promise to do so. The remaining seven participants from the second hospital never camped at the hospital, management supported them by giving them meals and transportation to and from work after work.

The supplies, equipment, and drugs required for the ICU to run efficiently were available. Management used to come to the facilities to give us moral support as well as a word of encouragement (see Table 6).

Risk of Infections

Every participant acknowledged that they had been exposed to COVID and that they were unaware of any protective measures against the virus. PPE usage was not taught to all ICU nurses. They used PPE which covered them from head to toe as a result ICU nurses worked a few hours at a time because they could not manage to work long hours in the kind of PPE they had. Therefore, before entering the ICU, one had to go to the bathroom and have something to eat. When they left the ICU after work, each participant indicated that their oxygen saturation levels were low and that their scrubs

were soaking wet, making it impossible for them to breathe. That might potentially be the infection source. Some ICU personnel died from COVID-19, while others became ill.

The ICU nurses used PPE appropriately and cleansed reusable PPE in chlorine to stop the COVID infection from spreading. They also steamed with water and some ICU nurse would put eucalyptus leaves in the water when steaming (see Table 7).

PPE Shortage

Every participant admitted that their PPE was inadequate, especially during the first wave of COVID. ICU nurses requested management to provide them with appropriate PPE after they were given compromised PPE at one point. A portion of the PPE, including masks, gowns, and gumboots, were also recycled. To disinfect the gumboots, they used chlorine. Some participants reported that they were reacting to the PPE which was given to them (see Table 8).

Table 9 summarizes the alignment of the Roy adaption model by Sister Callista Roy and the lived experiences of ICU nurses who take care of COVID patients during the pandemic from two institutions in Lusaka, Zambia as my theoretical framework.

Table 9

The Roy Adaption Model

Roy adaption model	Definition	Theme
Physiologic	Focus on the individual's physical health and functions.	(1). Risk of infections
Self-concept	The individual's beliefs and feelings about themselves.	(2). Emotional and Physiological effects
Role function	The individual's role in society.	(3). Education (4). PPE shortage (5). Nursing Shortage
Interdependent modes	The individual's relationship and interaction with.	(6). Management support

Limitation of the Study

Potential limitations were the cost of traveling to and from Zambia. I went out there to start building some relationships first. After I returned, I had to finish the documentation procedure, which included obtaining approval from the two healthcare institutions where I would be collecting data as well as from Zambia's research authority. With one of the institutions, the process took a little while, but in the end, all authorization was granted. I had to obtain the contact information for the ICU managers, who served as my gatekeepers and were important in the process once the entire procedure was completed and Walden IRB approval was granted. Following the establishment of those relationships with the ICU managers, a second journey to Lusaka, Zambia was made in order to carry out the interviews. I had five participants from the first institution and six from the second institution at the time I planned my trip. When I

got to Zambia, I recruited some more participants to have seven ICU nurses from each hospital.

The other limitation was that my initial plan was to use NVivo for my data analysis. NVivo was expensive, so I brought it to the attention of my chair on one of the conference calls. After my chair recommended MAXQDA, I looked up the software's price online and found that it was affordable. As a result, I used MAXDQA for my data analysis.

Recommendations

The participants were not taught how to treat COVID patients or stop the COVID virus from infecting them during the initial wave of the COVID pandemic. ICU nurses had information by the time the second and third waves arrived because of a few research studies that were conducted at that time. Through this study, I found that although management did not offer incentives to the ICU nurses, they did offer some support in the form of lodging, food, and supplies. Additionally, the management gave all of the ICU nurses at the first hospital free COVID testing. At the second hospital, meals, free COVID testing for all ICU staff, and transportation to and from work for ICU nurses was provided by management.

Further study is needed to explore the experiences of medical professionals who treated COVID patients during the pandemic. ICU nurses talked about their lived experiences caring for COVID patients, but in order to provide further insight into how they treated COVID patients throughout the pandemic, medical professionals should tell their lived experiences as well.

I recommend that institutions should train more ICU nurses to address the issue of ICU nurses' shortages. If institutions are offering in-service training, I also recommend that all ICU nurses, not just a select few, should receive the training and be prepared for future pandemics and emergencies in the future. The rationale behind these recommendations is that it is unsafe for institutions to assign non-critical care nurses to work in the ICU.

Implications

This study may impact social change by raising awareness of ICU nurses' experiences caring for COVID patients in Lusaka, Zambia. In the two Zambian institutions, ICU nurses are now knowledgeable about how to handle COVID-19 and safeguard themselves and their families from getting the COVID virus. ICU nurses said that they will continue to use the PPE correctly and test for COVID. If testing is done and the findings are positive, they will receive treatment and be kept apart from their family in order to stop the virus from spreading. My research may also contribute to positive social change in the following way. It will enable healthcare institutions to put resources in place to support ICU nurses and safeguard them against COVID infection and ultimately help improve patient safety.

Conclusion

This qualitative study was conducted to explore the experiences of ICU nurses who cared for COVID patients in Lusaka, Zambia. ICU nurses have taken the lead in best practice and secure patient care in health care institutions. Their task became more difficult due to lack of information about the COVID-19 epidemic. The ability of

healthcare professionals to provide high-quality care was impacted by their physical and emotional health.

In conclusion, every participant feels that great care could have been provided to patients and low death rates may have occurred if they had received training on how to care for COVID-19 patients. Some participants said that the in-person interview was the first opportunity they had ever had to discuss their pandemic experiences, and that it was very beneficial to them because, in Lusaka, Zambia, ICU nurses were not provided with psychological counseling to aid in the process of promoting their emotional and psychological wellbeing even after the pandemic.

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Appendix A: Interview Guide

Here is the main question:

- RQ: What are the lived experiences of ICU nurses who care for COVID 19 patients in the hospital in Zambia?

Possible secondary probing questions

- Tell me how you feel about caring for a patient with COVID-19.
- Tell me about how management supported you during the COVID-19 pandemic.

Appendix B: Recruitment Flyer

Flyer

Interview study seeks ICU nurses who cared/caring for COVID-19 patients

There is a new study about the experiences of ICU nurses who take care of patients with COVID 19 in the hospital environment in Lusaka Zambia. Raising awareness of ICU nurses' experiences will help healthcare institutions to put resources in place to support ICU nurses, safeguard them against COVID infection and ultimately help improve patient safety. For this study, you are invited to describe your lived experiences while caring for COVID-19 patients.

About the study:

- Face-to-face interviews, open ended questions will be asked, and pseudo names will be used to protect participant's identity.
- Journaling, note-taking, audio recording, and coding. No video recording will be done.
- The interview will be 30 – 60 minutes.
- To protect your privacy, the published study will not share any names or details that identify you.

Volunteers must meet these requirements:

- Aged 20 to 65
- Nurses who cared and/or still caring for COVID patients
- In Lusaka, Zambia

This interview is part of the doctoral study for Mable Mwila, a Ph.D. student at Walden University. Interviews will take place during March 2024.

To confidentially volunteer, contact the researcher:

Please do not hesitate to contact me if you have any questions or concerns. You can email me at mable.mwila@waldenu.edu